

4/a



# CENTER FOR NUCLEAR WASTE REGULATORY ANALYSES QUALITY ASSURANCE SURVEILLANCE REPORT

PROJECT NO: 20-5704-17x

REPORT NO: 95-17

PAGE 1 OF 2

**SURVEILLANCE SCOPE:** General review of Subregional Hydrology Research Tasks for compliance with QA Program requirements.

**REFERENCE DOCUMENTS:** Project Plan for Subregional Hydrogeologic Flow and Transport Processes; Program Manager's Periodic Report (PMPR), Period 02; and QAP-004, Surveillance Control.

**STARTING DATE:** 11/29/95

**ENDING DATE:** 12/28/95

**QA REPRESENTATIVE:** Bruce Mabrito (Note that this surveillance was begun by R. Folck from the SwRI QA Department/cc30 when he established the surveillance schedule and was completed by B. Mabrito. The change was made in response to CNWRA budgetary/funding adjustments. Due to the travel of some individuals and the holiday schedule, the surveillance took longer than originally anticipated.)

**PERSONS CONDUCTING TEST/EXAM/ACTIVITY:** R. Bagtzoglou (PI), P. Lichtner, G. Stirewalt, S. Stothoff, D. Turner

**SATISFACTORY FINDINGS:** The most recent PMPR was consulted to identify current activities in the Subregional Hydrogeologic project. Discussions were held with the Principal Investigator to review activities, identify other personnel involved, and to verify the QA requirements applicable to the specific activities. Results are as follows.

5704-171 – Peer review process: No current activity. Peer review completed in early 1995. No scientific notebook.

5704-172 – Semi-annual research report preparation: Work ongoing for next semi-annual report. No scientific notebook.

5704-173 – Development of Three-Dimensional Site-Scale Model: Work mostly completed by June 1995. Little recent activity. Scientific notebook No. 145 and associated data reviewed. Scientific notebook contains computer printouts (charts and color printouts) which help in showing how the visualization of data is demonstrated. Request was made to more securely attach the printouts in the scientific notebook.

5704-174 – Evaluation of Approaches for Estimating Infiltration and Recharge: Work currently ongoing, scientific notebook No. 147 being utilized with computer printouts being attached to the pages. Excellent description of the work is included, with initials and date provided for each entry. The scientific & engineering code BREATH is being utilized in this activity and Version 1.1 has been controlled by the CNWRA and is the version being used in this task.

5704-175 – Characterization of the Potential for Present or Future Perched-Water Development: Arc/Info being used as the database repository. Scientific notebook No. 148 extremely well kept, with considerable use of computer printouts being attached to pages of the bound book. Entries are acceptably being made in two different sections of the scientific notebook. References in the form of tabular data is included in this scientific notebook. The scientific and engineering software BIGFLOW, Version 1.1, is being utilized in this task on the SUN platform and is the same version that was put under configuration management when the CNWRA was using the INEL CRAY platform.

5/9



# CENTER FOR NUCLEAR WASTE REGULATORY ANALYSES QUALITY ASSURANCE SURVEILLANCE REPORT

PROJECT NO: 20-5704-17x

REPORT NO: 95-17

PAGE 2 OF 2

### SATISFACTORY FINDINGS (CONT'D):

5704-176 - Site-Scale Flow and Transport Modeling: Scientific notebook No. 146 contains input from the PI and from the electronic notebook of another CNWRA staff member. It was mentioned by the QA representative that although the computer printouts taped to the bound scientific notebook pages meet the requirements of QAP-001, they could be made more secure by either applying tape to all four corners or by using a "glue pencil." The PI stated he will more securely attach the computer printouts. Appropriate references are included in the scientific notebook. The scientific and engineering software CTOUGH was considered for this task early on, but is not being utilized. The scientific and engineering software SUFLAT, which is an executive module under development which runs other programs in the proper sequence, is not currently under CNWRA configuration management. The scientific and engineering software BIGFLOW, Version 1.1, is utilized in the SUFLAT routine and is under CNWRA configuration management.

5704-177 - Coordination of Apache Leap Tuff Site Studies: This activity is inactive at this time. A workshop was conducted in conjunction with the University of Arizona in the April-May 1995 time frame, but no further work is being accomplished in this area.

Personnel qualification and QA indoctrination records were verified for the following personnel contributing to the Subregional Hydrology Research tasks:

R. Bagtzoglou, S. Stothoff, D. Turner, P. Lichtner, G. Stirewalt, Michael Muller, Hannah Castellaw, Tim Tolley

UNSATISFACTORY FINDINGS: None

NONCONFORMANCE REPORT NO: None

ATTACHMENTS: None

RECOMMENDATIONS/ACTIONS: B. Mabrito to send out an E-mail note to all PIs to provide some guidance on the preferred method to attach computer generated graphs, charts, pictures, text and calculations.

During this surveillance, the QA representative had some difficulty in locating scientific and engineering software objective evidence in the QA Records Room pertaining to configuration management. Such documentation and diskettes/tapes were present and available, but could be better marked and positioned in the software filing cabinets. With the CNWRA funding changes, the control of such documentation and tapes will be handled by CNWRA staff. QA will address this issue by reorganizing the physical filing system to make it easier to determine the status of each piece of scientific and engineering software.

APPROVED: \_\_\_\_\_

  
CENTER DIRECTOR OF QUALITY ASSURANCE

DATE: \_\_\_\_\_

12/29/95

### DISTRIBUTION:

ORIGINAL - CENTER QA DIRECTOR QA Records  
ORIGINATOR B. Mabrito  
PRINCIPAL INVESTIGATOR R. Bagtzoglou  
ELEMENT MANAGER E. Percy  
B. Sagar, H. Garcia,  
All Element Managers \_\_\_\_\_

ATTACHMENT TO SURVEILLANCE REPORT 95-17

6/9

[46] From: Bruce Mabrito at cnwra-os2 12/29/95 5:05PM (1735 bytes: 15 ln)  
To: Mikko Ahola at CNWRA, A Bagtzoglou at CNWRA, Charles Connor at CNWRA,  
David Ferrill at CNWRA, Amitava Ghosh at CNWRA, Ronald Green at CNWRA,  
Simon Hsiung at CNWRA, Ronald Janetzke at CNWRA, Mark Jarzempa at CNWRA,  
Peter Lichtner at CNWRA, Randall Manteufel at CNWRA, RL Marshall  
(Robert Marshall) at CNWRA, Sitakanta Mohanty at CNWRA, William Murphy at  
CNWRA, Goodluck Ofoegbu at CNWRA, Roberto Pabalan at CNWRA, Stuart Stothoff at  
CNWRA, Gordon Wittmeyer at CNWRA  
To mailing list: #PRINCIPAL INVEST  
cc: Rawley Johnson at CNWRA, Larry McKague at CNWRA, English Percy at CNWRA  
cc mailing list: #DIRS-MGRS  
bcc: Linda Hearon, Bonnie Caudle, Lydia Campos, Bruce Mabrito  
Subject: Scientific Notebook "Paste-Ins" and "Tape-Ins"

----- Message Contents -----

During a recent surveillance which involved checking numerous CNWRA scientific notebooks, it was noted that when attaching a printed chart, map, photo, figures, equations or text, the method which produced the best results was the "glue stick" approach. Transparent tape, when used on all sides of an attachment, was certainly acceptable, but the glue stick seemed to produce the best overall results consistently, and in the scientific notebooks I checked, all attachments remained securely affixed to the page. The use of "rubberized cement" has not proven acceptable in making attachments to scientific notebooks.

Contact Lydia Campos if you need to obtain a glue stick.

Bruce